

Multi-modality imaging for treatment response evaluation in rectal cancer

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“Multi-modality imaging for treatment response evaluation in rectal cancer”

Marco Janssen, 14-09-2011

1. Peritumoral inflammatory responses can result in an underestimation of the metabolic treatment response of the tumor when assessed with FDG-PET-imaging. *(dit proefschrift)*
2. The percent reduction of the maximal FDG uptake in rectal tumors after two weeks of pre-operative treatment with chemo-radiotherapy is an accurate predictor of the pathological treatment response. *(dit proefschrift)*
3. Blood glucose level normalization of sequential FDG-PET-data significantly increases the accuracy of PET-based predictions of the pathological treatment response. *(dit proefschrift)*
4. FDG-PET based automatic tumor contouring using SUV-iso-thresholding accurately delineates the pathological tumor volume. *(dit proefschrift)*
5. Both visual interpretation and quantification of FDG-PET images of tumors with a relatively small volume are influenced by the partial volume effect of the PET-scanner.
6. Standardization of PET imaging is essential in order to untangle the complicated relationship between measured tumor FDG uptake and tumor physiology. *(Soret, J Nucl Med, 2007)*
7. Most studies perform PET-acquisition after an FDG uptake period of 45 to 60 minutes, whereas FDG uptake increases without saturation up to 120 minutes after injection for most malignancies.
8. One size does not fit all for the treatment of rectal cancer.
9. 100% of the shots you don't take, don't go in.
10. Je kunt niet falen, tenzij je opgeeft.